ABB

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08559-001

July 31, 1997

Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Bryan Kizer
P.O. Box 10068
2155 Eagle Drive
North Charleston, SC 29418

Subject: **Second Quarter 1997 Interim Monitoring Plan Letter Report**
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station (NAS) Jacksonville
Jacksonville, Florida

BACKGROUND INFORMATION

Groundwater monitoring began at Facility 159 (Gas Hill Fuel Farm) as part of an Interim Monitoring Plan (IMP) approved by the Florida Department of Environmental Protection (FDEP) on February 22, 1994. According to the plan, groundwater samples were to be collected from site monitoring wells on a quarterly basis for a duration of 2 years beginning January 1995. After 2 years, the status of the site was to be evaluated to determine if quarterly monitoring should continue for another 2-year period, or if an alternate course of action would be appropriate.

The monitoring plan was modified by the FDEP on August 1, 1994, to include additional monitoring wells not stipulated in a request by the Navy to modify the initial IMP. In 1996, two more monitoring wells were installed at the request of the FDEP and added to the IMP list bringing the total number of wells to 17.

In accordance with the conditions set forth in FDEP's letter to Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) dated August 1, 1994, the Navy proposes to continue the IMP for an additional 2 years. SOUTHNAVFACENGCOM will send a letter under separate cover to FDEP reporting the real estate status of Facility 159 with respect to the previously planned tank farm abandonment plan, as requested in FDEP's letter to SOUTHNAVFACENGCOM dated November 27, 1995. Copies of the referenced FDEP correspondences are attached in Appendix A, Correspondences.

SECOND QUARTER 1997 GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

Groundwater samples were collected from 17 monitoring wells at Facility 159 and transported to Environmental Conservation (ENCO) Laboratories in Jacksonville, Florida, for analysis. All groundwater

samples were analyzed for compounds specified in U.S. Environmental Protection Agency (USEPA) Methods 602 and 610. Monitoring well sampling locations and contaminant concentrations are shown on Figure 1, Appendix B. Monitoring well construction details are provided in Table B-1, Appendix B.

Table B-2, Appendix B, is a summary of the second quarter 1997 analytical results. Previous groundwater analytical data collected at the site during the first 2-year monitoring period (January 1995 to December 1996) are included in Appendix B as Tables B-3 and B-4. The data are presented to show changes in contaminant concentrations in the monitoring wells over time. Analytical results for each well sampled during the second quarter of 1997 are attached in Appendix C, Second Quarter 1997 Groundwater Analytical Results, June 5, 1997.

Only monitoring wells with contaminants detected in groundwater samples are listed in Table B-2. Contaminant concentrations in all other monitoring wells sampled during the second quarter 1997 were below method detection limits. Total volatile organic aromatics (VOAs) are not reported because the June 19, 1997, revisions to Chapter 62-770, Florida Administrative Code (FAC), have defined separate target levels for toluene, ethylbenzene, and total xylenes. There is no longer a target level for total VOAs. Because Facility 159 is in an interim monitoring status, the revised state target levels (STLs) will apply to any remedial action performed henceforth at the site.

Contaminants exceeding STLs were detected in groundwater samples from monitoring wells (JAX-159-) GH-15, GH-23, and GH-24. In monitoring wells GH-15 and GH-24, only benzene exceeded the STL. Benzene, toluene, ethylbenzene, and total xylenes exceeded the STLs in GH-23. Comparing third quarter 1996 and second quarter 1997 analytical results, benzene concentrations increased in wells GH-15 and GH-23 and decreased in well GH-24. Benzene concentrations in monitoring wells GH-13, GH-14, GH-16, GH-19, and GH-22 decreased from above STLs in the third quarter 1996 to below method detection limits in the second quarter 1997.

ABB Environmental Services, Inc., on behalf of the Navy, plans to conduct the third quarter 1997 groundwater sampling at NAS Jacksonville Facility 159 (Gas Hill Fuel Farm) in September 1997 as specified in the current IMP. Because of the interim status of the site and the fact that site remediation will be required before the fuel farm is closed, contaminant concentrations in groundwater samples collected from site monitoring wells during the current 2-year monitoring period will be compared to STLs cited in Chapter 62-770, FAC (revised June 19, 1997). Please contact me if you have any questions or comments.

Sincerely,

ABB ENVIRONMENTAL SERVICES, INC.

Phylissa Miller
Project Manager

Jim Williams, R.G.
Principal Scientist

Attachments

cc: Lt. Beth Melendez (Naval Air Station Jacksonville)
file

JAX2Q159.LTR
SAS.07.97

PROFESSIONAL REVIEW CERTIFICATION

This report was prepared under the direct supervision of a professional geologist registered in the State of Florida. The work and professional opinions rendered in this report were conducted or developed in accordance with commonly accepted procedures consistent with applicable standards of practice. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report or referenced in public literature. Recommendations are based upon interpretations of the applicable regulatory requirements, guidelines, and relevant issues discussed with regulatory personnel during the site assessment. If conditions that differ from those described are determined to exist, the undersigned geologist should be notified to evaluate the effects of any additional information on this assessment or the recommendations made in this report. This report was developed for Site 159 (Gas Hill Fuel Farm), NAS Jacksonville, Jacksonville, Florida, and should not construed to apply to any other site.

Michael J. Williams
Professional Geologist
P.G. No. 344

7/31/97
Date

APPENDIX A

CORRESPONDENCES

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

November 27, 1995

Mr. Bryan Kizer
Code 1842
SOUTHNAVFACENGCOM
2155 Eagle Dr., P.O. Box 190010
North Charleston, S.C. 29419-9010

RE: MOP Second Quarter Results
Gas Hill Site
Jacksonville Naval Air Station, Florida

Dear Mr. Kizer:

The Bureau of Waste Cleanup has reviewed the First Quarter Monitoring Only Report (MOR) dated October 1995, (received November 16, 1995), submitted for this site. In order for the informal Long Term Monitoring Only Plan to continue, the following changes/actions must be implemented:

1. Due to increases in VOCs at monitor well JAX-159-GH-14, the Navy must intall:

   a. A water table well located 30 feet southeast of well 159-GH-14,
   b. an intermediate depth well adjacent to the above requested well, and
   c. The previously dastroyed well No. JAX 159-GH-?.

All of the above requested wels must be part of the current Long Term Monitoring Plan.

2. The Navy must report the real estate status of this facility with respect to a previously planned tank farm abandonment plan. Please, incinde this report as part of the Second Quarter MOP Results and all quarterly reports.

Once the above requested changes are implemented, the monitoring program should be continued as outlined in the Department's August 1, 1994 Monitoring Only Plan (MOP) Approval Order.

TOTAL P.01

Department of
Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

August 1, 1994

Mr. Herb Fraser-Rahim, P.E.
Petroleum Branch
SOUTHNAVFACENGCOM
2155 Eagle Drive, P.O. Box 190010
North Charleston, S.C. 29419-9010

RE: Interim Monitoring Only Plan (MOP) for Gas Hill
Jacksonville Naval Air Station. Dated May 23, 1994
(received May 31, 1994)

Dear Mr. Fraser:

The Bureau of Waste Cleanup has reviewed the request for modification of the current Interim Monitoring Plan issued on February 22, 1994. The request has been modified to include additional wells not stipulated in the request; therefore, and pursuant to Rule 17-770.630(4), Florida Administrative Code (F.A.C.), the Department approves the following modified "interim monitoring only" proposal until the fate of the above referenced facility is decided. Pursuant to Rules 17-770.660 and 17-770.700(3), F.A.C., you are required to complete the interim monitoring program outlined below, and to submit the analytical results to the Department within sixty (60) days of sample collection:

Monitoring Wells	Parameters	Frequency	Duration
Jax-159-GH-4 Jax-159-GH-5 Jax-159-GH-6 Jax-159-GH-7 Jax-159-GH-8 Jax-159-GH-9 Jax-159-GH-10 Jax-159-GH-13 Jax-159-GH-14 Jax-159-GH-15 Jax-159-GH-16 Jax-159-GH-17 Jax-159-GH-19 Jax-159-GH-20 Jax-159-GH-22	EPA Methods 602 (including MTBE) and 610	Quarterly	Two Years

Likewise and as accorded in our May 21, 1993 meeting, the Navy shall submit a semiannual report on the facility's current and future use and/or retrofitting schedules. The program is limited to a biannual period to periodically review the status and trends of the groundwater plume under the storage farm and to decide, if needed, on a different course of action. If no changes are noted in the plume status, the interim MOP will be extended again for a period of two more years. If I can be of any further assistance with this matter, please contact me at 904/488-3935.

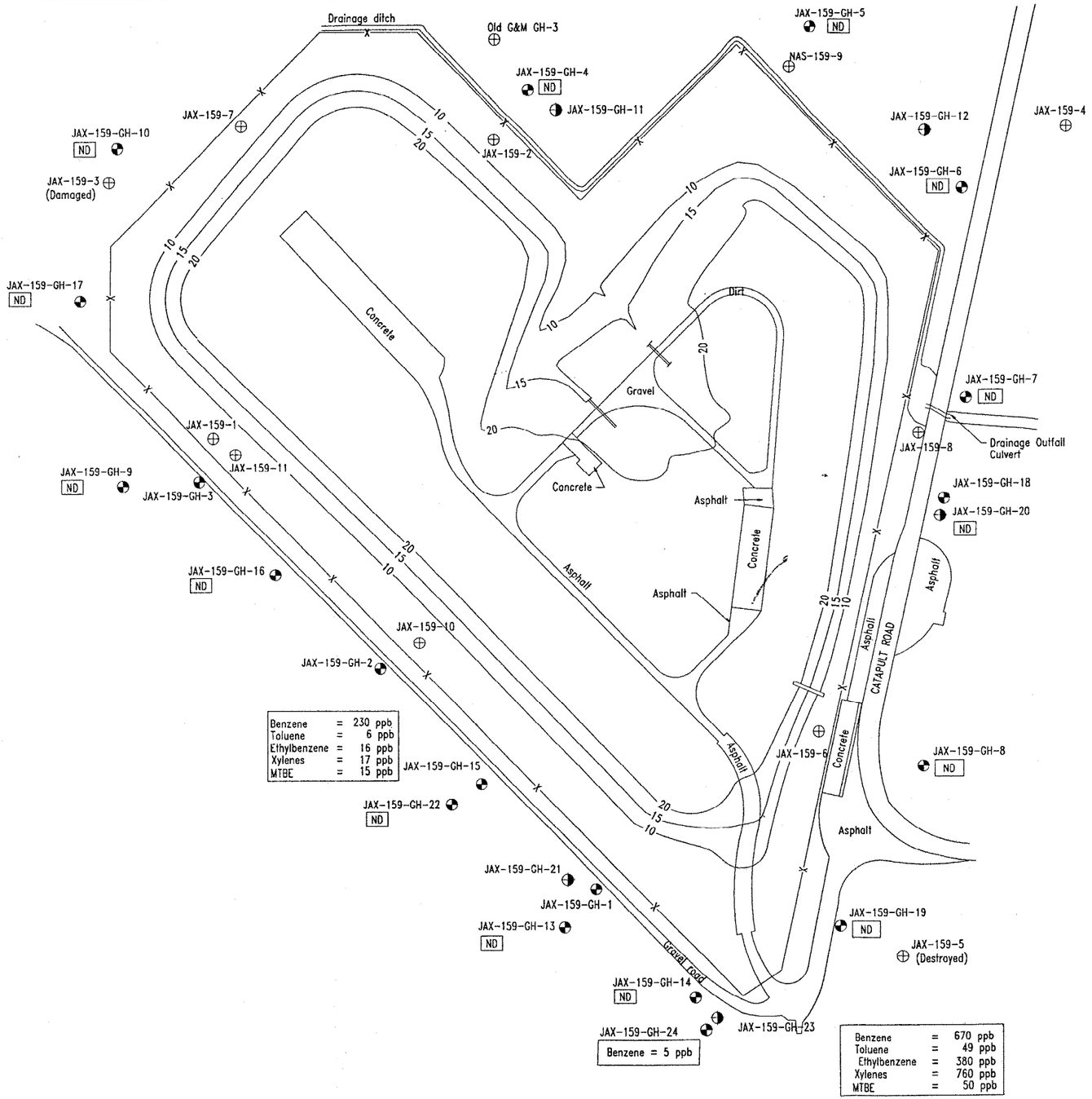
Sincerely,

Jorge R. Caspary, P.G.
Remedial Project Manager

cc: Jorge R. Caspary, FDEP
Kevin Gartland, NAS Jacksonville
Larry Krestalude, DER Northeast District Office

APPENDIX B

TABLES



LEGEND

20	Existing topographic contour
JAX-159-GH-20	Deep monitoring well location and designation
JAX-159-GH-7	Shallow monitoring well location and designation
JAX-159-8	Existing monitoring well
Benzene = 5 ppb	Contaminant concentration in groundwater sample
ppb	Parts per billion
MTBE	Methyl tert-butyl ether
ND	Not detected

Source: U.S. Army Engineer District, Corps of Engineers, Savannah, Georgia

FIGURE 1
GROUNDWATER CONTAMINATION DISTRIBUTION MAP, JUNE 6, 1997

SECOND QUARTER 1997
INTERIM MONITORING PLAN
LETTER REPORT
SITE 159 (GAS HILL FUEL FARM)
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

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Table B-1
Monitoring Well Construction Data

Second Quarter 1997 Interim Monitoring Plan Letter Report
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well No.	Total Depth of Well (ft bls)	Top of Casing to Ground Surface (ft.)	Surveyed Top of Casing Elevation (msl)	Screened Interval Depth (ft.)
JAX-159-GH-4	10.00	flush	6.56	1.0 to 10.0
JAX-159-GH-5	10.00	flush	6.87	1.0 to 10.0
JAX-159-GH-6	11.00	flush	6.79	2.0 to 11.0
JAX-159-GH-7	10.00	flush	5.94	1.0 to 10.0
JAX-159-GH-8	12.50	3.20	11.34	3.5 to 12.5
JAX-159-GH-9	10.00	3.25	9.25	1.0 to 10.0
JAX-159-GH-10	10.00	3.20	8.17	1.0 to 10.0
JAX-159-GH-13	10.00	3.00	10.44	1.0 to 10.0
JAX-159-GH-14	10.55	3.25	9.55	0.6 to 9.6
JAX-159-GH-15	10.73	2.87	9.36	0.7 to 9.7
JAX-159-GH-16	10.13	2.97	9.32	0.6 to 9.6
JAX-159-GH-17	11.60	3.03	8.59	1.6 to 10.6
JAX-159-GH-19	10.83	flush	6.38	0.8 to 9.8
JAX-159-GH-20	36.0	flush	5.89	30.9 to 35.4
JAX-159-GH-22	13.92	4.11	10.04	3.9 to 12.9
JAX-159-GH-23	30.00	3.01	8.60	25.0 to 29.0
JAX-159-GH-24	12.00	3.06	8.73	2.6 to 11.6

Notes: ft bls = feet below land surface.
ft = feet.
msl = mean sea level.
flush = level with ground surface.

Table B-2
Summary of Groundwater Sample Analytical Results

Second Quarter 1997 Interim Monitoring Plan Letter Report
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound Detected	JAX-159-GH-15	JAX-159-GH-23	JAX-159-GH-24	State Target Level[1]
	6/6/97	6/6/97	6/6/97	
Volatile Organic Compounds (USEPA Method 602) (ppb)				
Benzene	[2,3]230	[2,3]670	[2]5	1
Toluene	6	[2,3]49	ND	40
Ethylbenzene	16	[2,3]380	ND	30
Total xylenes	17	[2,3]760	ND	20
MTBE	15	[2,3]50	ND	35

[1] Chapter 62-770, Florida Administrative Code (revised June 19, 1997).
[2] Contaminant concentration exceeds State target levels.
[3] Contaminant concentration higher than sample collected the previous quarter.

Notes: USEPA = U.S. Environmental Protection Agency.
ppb = parts per billion.
ND = not detected.
MTBE = methyl tert butyl ether.

Table B-3
Summary Comparison of Analytical Results for Total Volatiles
1995 Quarterly MOP Sampling/Analysis

Second Quarter 1997 Interim Monitoring Plan Letter Report
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well No.	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
JAX-159-GH-4	BDL	1.3	BDL	1.1
JAX-159-GH-5	BDL	BDL	BDL	BDL
JAX-159-GH-6	BDL	6.1	2.2	BDL
JAX-159-8	BDL	BDL	BDL	BDL
JAX-159-GH-8	BDL	BDL	BDL	1.2
JAX-159-GH-9	BDL	BDL	BDL	BDL
JAX-159-GH-10	BDL	BDL	BDL	BDL
JAX-159-GH-13	BDL	BDL	BDL	BDL
JAX-159-GH-14	[1]498	[1]22	95.6	[1]2,353
JAX-159-GH-15	[1]1,773	[1]478	271	[1]1,290
JAX-159-GH-16	BDL	6	BDL	BDL
JAX-159-GH-17	BDL	BDL	BDL	BDL
JAX-159-GH-19	14	7.8	5.5	26
JAX-159-GH-20	BDL	BDL	BDL	BDL
JAX-159-GH-22	BDL	BDL	BDL	BDL

[1] Concentration of duplicate sample.

Notes: All measurements are in parts per billion.

MOP = Monitoring Only Plan.
BDL = below detection limit.

Table B-4
Summary Comparison of Analytical Results for Total Volatiles
1996 Quarterly MOP Sampling/Analysis

Second Quarter 1997 Interim Monitoring Plan Letter Report
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well No.	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
JAX-159-GH-4	--	BDL	BDL	--
JAX-159-GH-5	--	BDL	BDL	--
JAX-159-GH-6	--	2.3	BDL	--
JAX-159-8	--	BDL	BDL	--
JAX-159-GH-8	--	BDL	BDL	--
JAX-159-GH-9	--	BDL	BDL	--
JAX-159-GH-10	--	BDL	BDL	--
JAX-159-GH-13	--	BDL	1.2	--
JAX-159-GH-14	--	51.2	49.2	--
JAX-159-GH-15	--	926	[1]313	--
JAX-159-GH-16	--	BDL	1.1	--
JAX-159-GH-17	--	BDL	BDL	--
JAX-159-GH-19	--	5.1	1.5	--
JAX-159-GH-20	--	BDL	[1]BDL	--
JAX-159-GH-22	--	BDL	3.5	--
JAX-159-GH-23	--	1,461	[2]315	--
JAX-159-GH-24	--	45.2	[2]35.6	--

[1] Concentration of duplicate sample.
[2] Value based on reextracted and/or reanalyzed samples due to surrogate recoveries outside established limits.

Notes: All measurements are in parts per billion.

MOP = Monitoring Only Plan.
-- = not sampled.
BDL = below detection limit.

APPENDIX C

SECOND QUARTER GROUNDWATER ANALYTICAL RESULTS, JUNE 1997

FACILITY 159 (GAS HILL FUEL FARM) ANALYTICAL RESULTS

JR6049-1 6/4/97 GHG02001:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-2 6/4/97 GHG00601:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ

JR6049-2 6/4/97 GHG00601: (Continued)

Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-3 6/4/97 GHG00701:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-4 6/4/97 GHG00501:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ

JR6049-4 6/4/97 GHG00501: (Continued)

Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-5 6/4/97 GHG00401:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ

JR6049-5	6/4/97	GHG00401: (Continued)		
m-Xylene &p-Xylene		1	U	µg/ℓ
o-Xylene		1	U	µg/ℓ

JR6049-6	6/4/97	GHG00901:		
1,2-Dichlorobenzene		1	U	µg/ℓ
1,3-Dichlorobenzene		1	U	µg/ℓ
1,4-Dichlorobenzene		1	U	µg/ℓ
1-Methylnaphthalene		10	U	µg/ℓ
2-Methylnaphthalene		10	U	µg/ℓ
Acenaphthene		10	U	µg/ℓ
Acenaphthylene		10	U	µg/ℓ
Anthracene		10	U	µg/ℓ
Benzene		1	U	µg/ℓ
Benzo(a)anthracene		10	U	µg/ℓ
Benzo(a)pyrene		10	U	µg/ℓ
Benzo(b)fluoranthene		10	U	µg/ℓ
Benzo(g,h,i)perylene		10	U	µg/ℓ
Benzo(k)fluoranthene		10	U	µg/ℓ
Chlorobenzene		1	U	µg/ℓ
Chrysene		10	U	µg/ℓ
Dibenzo(a,h)anthracene		10	U	µg/ℓ
Ethylbenzene		1	U	µg/ℓ
Fluoranthene		10	U	µg/ℓ
Fluorene		10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene		10	U	µg/ℓ
Methyl tert-butylether		2	U	µg/ℓ
Naphthalene		10	U	µg/ℓ
Phenanthrene		10	U	µg/ℓ
Pyrene		10	U	µg/ℓ
Toluene		1	U	µg/ℓ
m-Xylene &p-Xylene		1	U	µg/ℓ
o-Xylene		1	U	µg/ℓ

JR6049-7	6/4/97	GHG01001:		
1,2-Dichlorobenzene		1	U	µg/ℓ
1,3-Dichlorobenzene		1	U	µg/ℓ
1,4-Dichlorobenzene		1	U	µg/ℓ
1-Methylnaphthalene		10	U	µg/ℓ
2-Methylnaphthalene		10	U	µg/ℓ
Acenaphthene		10	U	µg/ℓ
Acenaphthylene		10	U	µg/ℓ
Anthracene		10	U	µg/ℓ
Benzene		1	U	µg/ℓ
Benzo(a)anthracene		10	U	µg/ℓ
Benzo(a)pyrene		10	U	µg/ℓ
Benzo(b)fluoranthene		10	U	µg/ℓ
Benzo(g,h,i)perylene		10	U	µg/ℓ
Benzo(k)fluoranthene		10	U	µg/ℓ

JR6049-7 6/4/97 GHG01001: (Continued)

Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-8 6/4/97 GHG01701:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6049-9 6/4/97 GHT00001:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
Benzene	1	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-1 6/5/97 GHG01601:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-10 6/5/97 GHG02301D:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ

JR6052-10 6/5/97 GHG02301D: (Continued)

Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	670		µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	380		µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	50		µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	49		µg/ℓ
m-Xylene& p-Xylene	520		µg/ℓ
o-Xylene	240		µg/ℓ

JR6052-11 6/5/97 GHT00002:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
Benzene	1	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-2 6/5/97 GHG01501:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	230		µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ

JR6052-2 6/5/97 GHG01501: (Continued)

Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	16		µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	15		µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	6		µg/ℓ
m-Xylene &p-Xylene	5		µg/ℓ
o-Xylene	12		µg/ℓ

JR6052-3 6/5/97 GHG02201: (Continued)

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-4 6/5/97 GHG01301:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-5 6/5/97 GHG01401:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ

JR6052-5 6/5/97 GHG01401: (Continued)

Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-6 6/5/97 GHG01901:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-7 6/5/97 GHG02401:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ

JR6052-7 6/5/97 GHG02401: (Continued)

Benzene	5		µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ

JR6052-8 6/5/97 GHG02301:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	620		µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	360		µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	45		µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	42		µg/ℓ
m-Xylene &p-Xylene	420		µg/ℓ
o-Xylene	210		µg/ℓ

JR6052-9 6/5/97 GHG00801:

1,2-Dichlorobenzene	1	U	µg/ℓ
1,3-Dichlorobenzene	1	U	µg/ℓ
1,4-Dichlorobenzene	1	U	µg/ℓ
1-Methylnaphthalene	10	U	µg/ℓ
2-Methylnaphthalene	10	U	µg/ℓ
Acenaphthene	10	U	µg/ℓ
Acenaphthylene	10	U	µg/ℓ
Anthracene	10	U	µg/ℓ
Benzene	1	U	µg/ℓ
Benzo(a)anthracene	10	U	µg/ℓ
Benzo(a)pyrene	10	U	µg/ℓ
Benzo(b)fluoranthene	10	U	µg/ℓ
Benzo(g,h,i)perylene	10	U	µg/ℓ
Benzo(k)fluoranthene	10	U	µg/ℓ
Chlorobenzene	1	U	µg/ℓ
Chrysene	10	U	µg/ℓ
Dibenzo(a,h)anthracene	10	U	µg/ℓ
Ethylbenzene	1	U	µg/ℓ
Fluoranthene	10	U	µg/ℓ
Fluorene	10	U	µg/ℓ
Indeno(1,2,3-cd)pyrene	10	U	µg/ℓ
Methyl tert-butylether	2	U	µg/ℓ
Naphthalene	10	U	µg/ℓ
Phenanthrene	10	U	µg/ℓ
Pyrene	10	U	µg/ℓ
Toluene	1	U	µg/ℓ
m-Xylene &p-Xylene	1	U	µg/ℓ
o-Xylene	1	U	µg/ℓ